

COMPRESSOR/EXPANDER

SRP-L210

Operating Instructions

Before operating the unit, please read this manual and the supplied "WARNING" thoroughly and retain it for future reference.

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Precautions

On safety (Refer to the supplied "WARNING".)

- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

On installation

Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On operation

- Before making program source connections, be sure to turn the power switch off and unplug the unit.
- When the unit is not used, turn the power off to conserve energy and to extend the useful life of your unit.

On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

On repacking

Do not throw away the carton and the packing material. It makes an ideal container to transport the unit in.

When shipping the unit for repair work or to another location, repack it as it was.

If you have any questions or problems concerning your unit, please contact your nearest Sony dealer.

WARNING

Notice for the Customers in the United Kingdom

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue : Neutral
Brown : Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red. Do not connect either wire to the earth terminal in the plug which is marked by the letter E or by the safety earth symbol $\perp$ or coloured green or green-and-yellow.

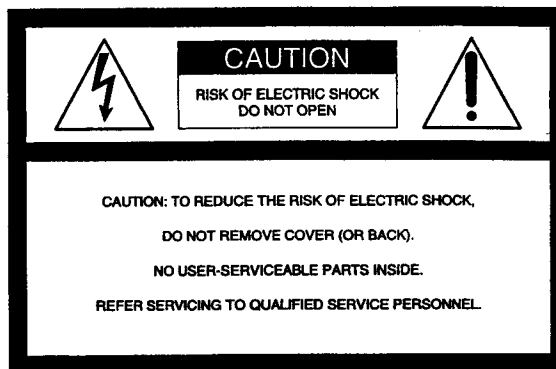


This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

*The location of the marking is at the top of enclosure.

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Features

The SRP-L210 is a dual channel compressor/expander.

A highly reliable system comparable to professional equipment:

SONY has been producing sound systems for business and professional use in schools, companies, and recording studios for a long time. Against this background, the SRP-L210 has been developed to ensure very reliable performance at a low cost.

Multiple effects from one system:

Multiple functions that are often used in a dynamics processor are compressed into one unit. As well as the compressor, limiter, enhancer and gate functions, the compressor / limiter part can be switched to work as an expander for full parameters.

Ducking from 1CH to 2CH, or from 2CH to 1CH, can easily be set up on the panel using the independently controlled stereo link function.

Dual channel I/O with XLR-Type and phone jack connectors are provided.

Creating high quality sound is possible:

When sound undergoes hard compression in the general compressor, it loses its tautness in the higher frequency range and often becomes unclear. This kind of dead sound can be revived by controlling the HARMONICS knob in the SRP-L210, and it is especially effective for guitar cutting and arpeggio.

Using the soft knee characteristics:

Natural and smooth compression can be achieved by using the soft knee characteristics even when a high ratio is set.

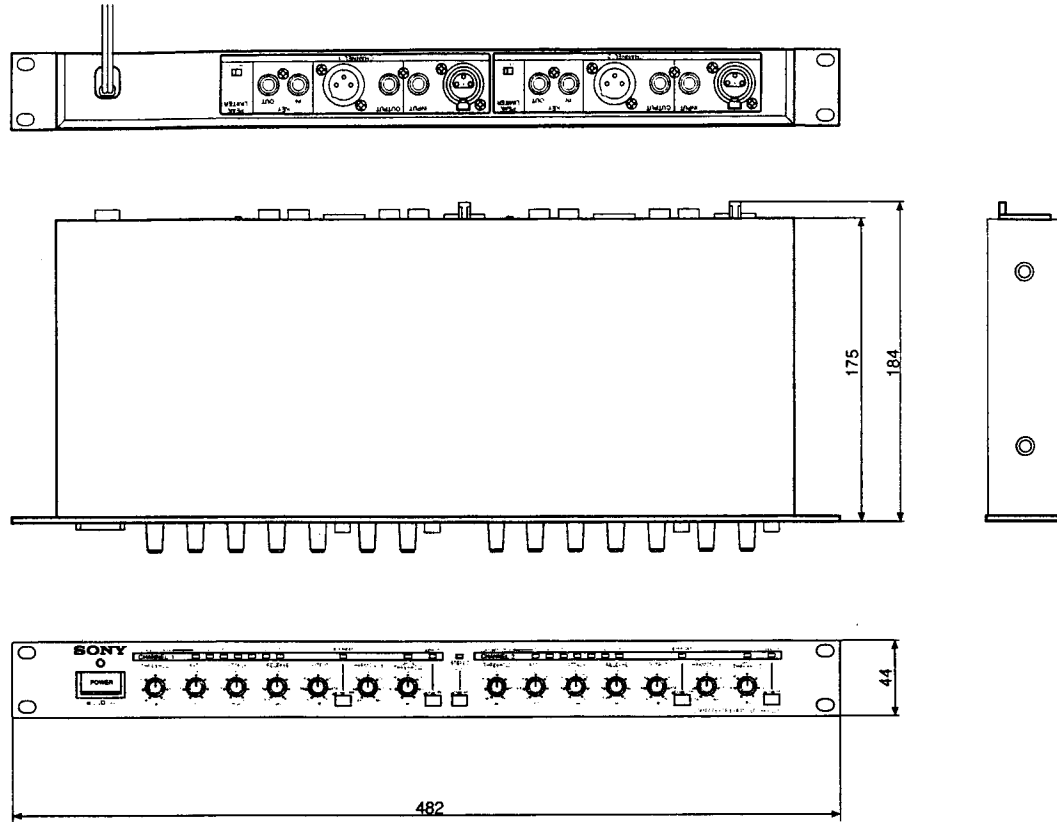
Peak limiter supporting digital recording:

A floating threshold type peak limiter, which is linked to the compression, is used.

Peak protection can be used easily and effectively on digital recorders that do not permit overflow.

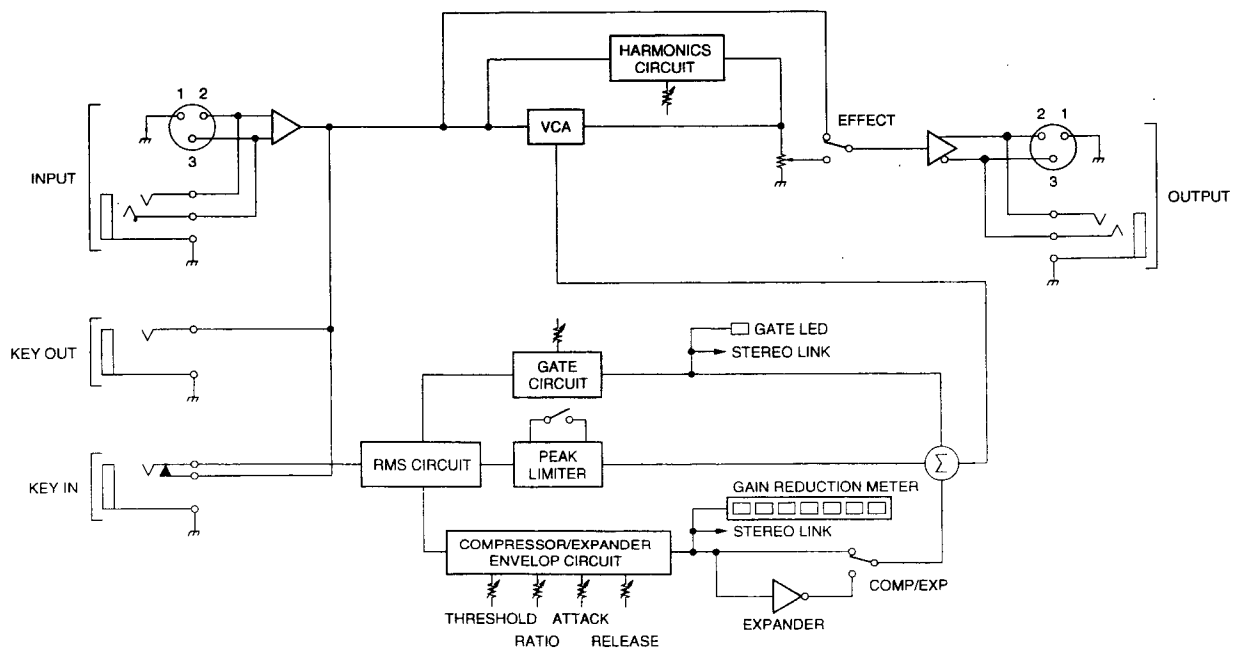
Mountable on 19-inch standard rack.

Dimensions



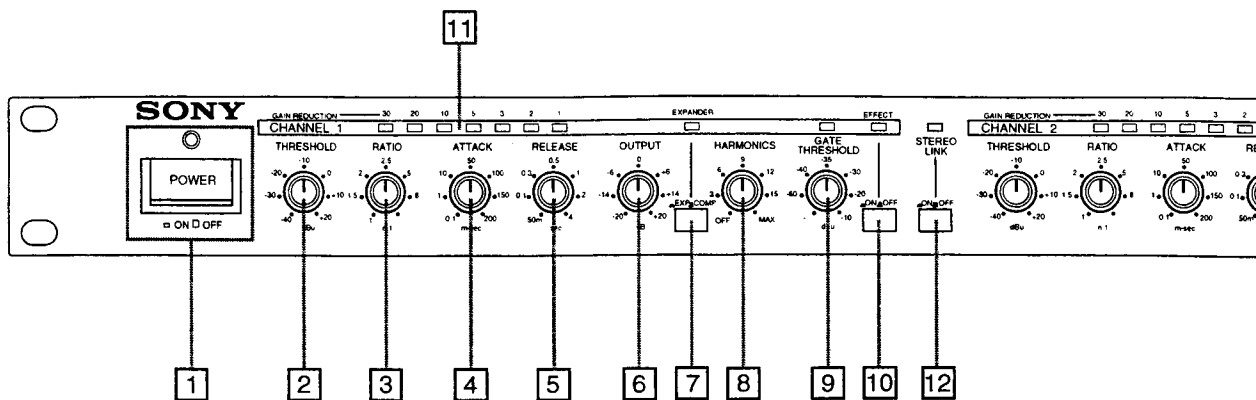
Unit: mm

Block diagram



Location and function of parts

Front Panel



1 POWER switch and pilot lamp:

When the power switch is turned on, the pilot lamp is lit (green) and the system is operational.

2 THRESHOLD knob:

Set a level to start the dynamic range compression of the input signal. This can be varied between -40dBu and $+20\text{dBu}$.

3 RATIO knob:

This sets the compression ratio of the output signal if the input signal exceeds the threshold level. For example, when this is set at a 2:1 ratio, the output signal only increases by 1dB against a 2dB increase in the input signal above the threshold level. When this is set at $\infty:1$, the output signal does not increase beyond the threshold level even though the input signal exceeds the threshold. This can be varied from 1:1 to $\infty:1$.

4 ATTACK knob:

This sets the time delay from when the input signal exceeds the threshold level to the start of compression. This can be varied from 0.1m sec to 200m sec.

5 RELEASE knob:

This sets the time delay from when the input signal falls below the threshold level to the release of the compression operation. This can be varied between 50m sec and 4sec.

6 OUTPUT knob:

This corrects the reduction of the output level by compression or the increase by expansion within the range -20dB and $+20\text{dB}$.

7 COMPRESSOR / EXPANDER switch:

This switch alters the function of this system between compressor and expander. When it is turned off, knobs 2 to 6 have a compression function, but when it is turned on, as indicated by a lit LED, they revert to an expansion function.

Expander function:

This system has an expander function that is activated by turning the compressor / expander switch on. Expander function of this system is "upward expander". This function increases the output signal in line with the ratio if the input signal exceeds the threshold level. The unique sound that only accentuates the attack can be obtained by using the gate function in conjunction with this function.

8 HARMONICS knob:

The high frequencies that are lost during compression is restored by attaching the harmonics content to the signal in line with the setting level of the knob. This function controls the level of harmonics that are attached in line with the gain reduction level; thus, when there is no gain reduction, no harmonics are raised, but when the gain reduction setting is high, so the harmonics are increased. Turn the knob fully anti-clockwise to switch the harmonics function off.

9 GATE THRESHOLD knob:

This sets the level at which the gate function operates. An LED is lit when the gate is operational. Turn the knob fully anti-clockwise to switch the gate function off. It can be set from $-\infty$ to -10dBu .

10 EFFECT switch:

When this is turned off, the input signal is output directly without passing through the effect circuitry. When turned on, its LED is lit and all functions are activated.

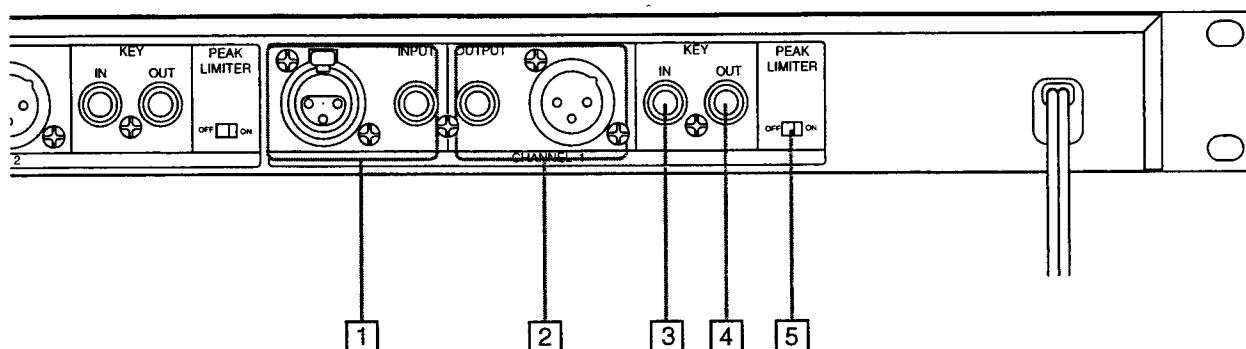
11 GAIN REDUCTION meter:

This is the meter to display how much the signal reduces during compression. It is displayed as 1, 2, 3, 5, 10, 20, and 30dB.

12 STEREO LINK switch:

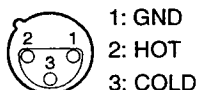
A channel with a high gain reduction volume is always set when this function is used, and both channels operate evenly. Fluctuations of the sound due to the difference in the gain reduction volume of the left and right channels that occurs when a stereo signal is input, can be prevented by this. In this case, both channels need to be set at almost the same level. When the ratio of one channel is set as 1:1, both channels can mimic the gain reduction volume of the other channel. In this way, a ducking effect can be achieved without using an external key input. The OUTPUT, COMPRESSOR/EXPANDER switch, HARMONICS, EFFECT ON/OFF switch and PEAK LIMITER are not linked to each other, and each channel must be individually set.

Rear Panel



1 INPUT connector and jack:

XLR-3-31 type connector (balanced)



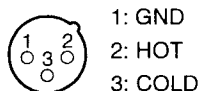
Phone jack (balanced, reference level +4dBu)

Tip : HOT, Ring: COLD, Sleeve: GND

2 OUTPUT connector and jack:

When the connection is unbalanced, 6dB level is automatically corrected, as this is a floating balance circuit. The Ring: COLD must be connected to the GND when the connection is unbalanced.

XLR-3-32 type connector (balanced)



Phone jack (balanced, reference level +4dBu)

Tip : HOT, Ring: COLD, Sleeve: GND

3 KEY IN jack:

This is to input the external key signal. When the phone jack is connected, it cuts the signal to be sent to the side chain from the input terminal and the system is controlled by the audio signal that is input through this terminal. Phone jack (unbalanced, reference level -3dBu)

4 KEY OUT jack:

This outputs the internal key signal to be sent to the side chain. De-Esser and other effects can be achieved by equalizing this signal and inputting it to the Key In terminal. Phone jack, (unbalanced, reference level -3dBu)

5 PEAK LIMITER switch:

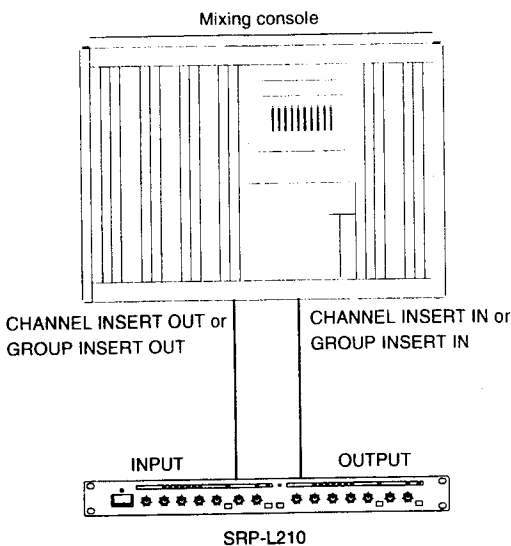
This switches the peak limiter function on and off. This system's peak limiter always limits the peak signals that go through compression, at the +10dB level of the compressor threshold. This is very effective when connected to digital equipment.

Applications

Controls the narration and vocal level.

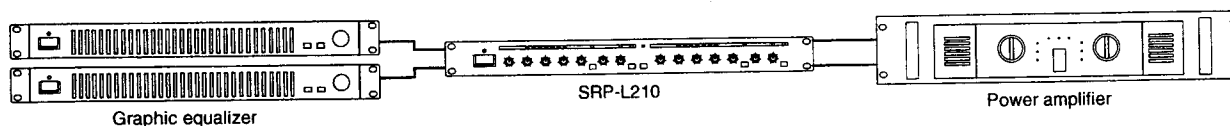
The reason for picking up all information without adjusting the level, regardless of whether the announcer or DJ is shouting or whispering while broadcasting, is because the dynamic range of the sound is reduced by compression.

This prevents fluctuation in the level and difficulties in hearing caused by changes in the distance of the microphone from the narrator. The level can be balanced by controlling the threshold against the input level by setting the ratio at 4:1 when the level fluctuations are relatively small, or at 10:1 if the fluctuations are greater, such as on-stage vocals. Background noise between voices and on-stage acoustic feedback can be effectively reduced by also using the gate function in this case.



Speaker Protection:

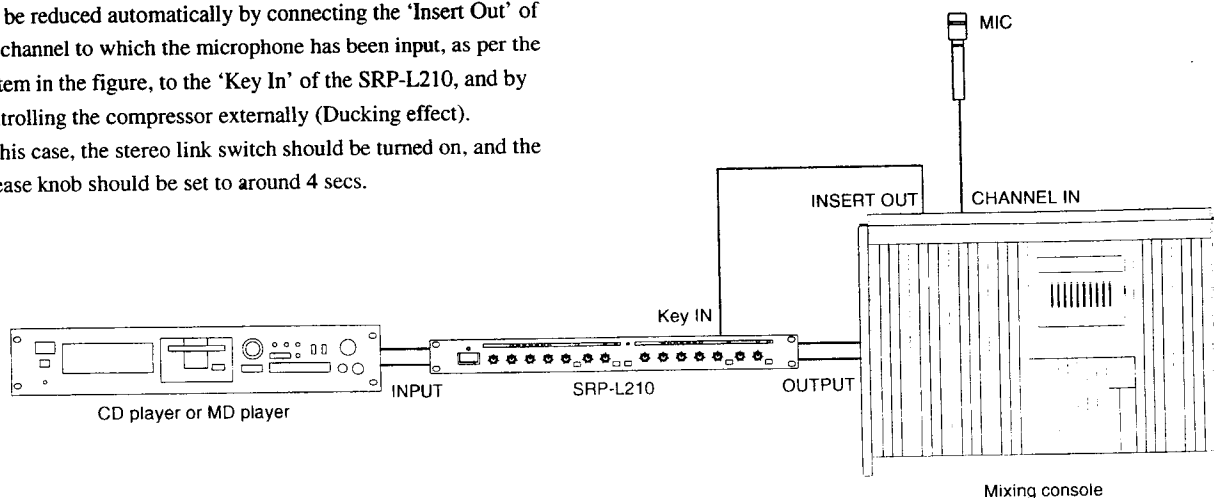
Damage caused to speakers by sudden overloading can be protected by the system as shown in the figure. The limiting function is not normally activated, and compression functions only for excessive input by setting the ratio between 4:1 and 10:1 and the threshold at about +6dB to +10dB. When channels one and two are used in stereo, the stereo link function must be used to prevent fluctuation of the sound.



Ducking Effect (for Paging Application, etc):

When any sound is picked up from an announcer or Master of Ceremonies, the signal level from the CD player or MD player can be reduced automatically by connecting the 'Insert Out' of the channel to which the microphone has been input, as per the system in the figure, to the 'Key In' of the SRP-L210, and by controlling the compressor externally (Ducking effect).

In this case, the stereo link switch should be turned on, and the release knob should be set to around 4 secs.



Specifications

INPUT

XLR-3-31 Type

Phone jack (Tip Hot, Ring Cold)

Balanced circuit.

Reference input level: +4dBu
Maximum input level: +24dBu
Input impedance: 80k Ω

Frequency response: 20 – 20kHz +0.5/–1dB
Total harmonic distortion: less than 0.05% (Reference input level, 1 kHz)
S/N ratio:(+4dB in/out) More than 98dB (Effect off)
More than 94dB (Effect on)
Cross talk: less than –100dB

KEY IN

Phone jack

Unbalanced circuit.

Reference input level: –3dBu
Maximum input level: +17dBu
Input impedance 10k Ω

Threshold: –40dBu – +20dBu
Ratio: 1:1 – ∞ :1
Attack time: 0.1 – 200msec
Release time: 50msec – 4sec
Output time: –20dB – +20dB
Gate threshold level: – ∞ – 10dBu
Gain Reduction Meter: 1/2/3/5/10/20/30dB

OUTPUT

XLR-3-32 Type

Phone jack (Tip Hot, Ring Cold)

Balanced circuit.

Reference output level: +4dBu
Maximum output level: +24dBu
Output impedance: 240 Ω
Load impedance: more than 10k Ω

Power Consumption 9W
Operating temperature: 0°C – 40°C
Storage temperature: –20°C – +60°C
Mass: 2.8kg
Dimensions: (W/H/D)
482 × 44 × 175mm
Supplied accessories: Operating instructions (1)
Warning(1)

KEY OUT

Phone jack

Unbalanced circuit.

Reference output level: –3dBu
Maximum output level: +17dBu
Output impedance: 120 Ω

Design and specifications are subject to change without notice.

(0dBu = 0.775V)